1 — NOP

ISG
initialize the MPI
MPI init stage
S20

MPI: set the input data table to start at V3000
(default is V5100 when the MPI is in PLC base slot 1)
If setting this for the first time, then power-cycle the PLC
to set this in the MPI.

3 — initialize the MPI, MPI init stage, S20
- LD K3000
- OUT MPI table base address pointer, MPI base ptr, V7353

set the sample interval to 1 sec

4 — initialize the MPI, MPI init stage, S20
- LD K10
- OUT MPI sample rate, V3000

roll over at 8 digits

5 — initialize the MPI, MPI init stage, S20
- LD K8
- OUT MPI roll-over, V3001

use an offset address from the MPI configuration data table at V3040

6 — initialize the MPI, MPI init stage, S20
- LD K0
- OUT MPI offset addr, V1400

set the configuration for all MPI channels

7 — initialize the MPI, MPI init stage, S20 — K32 FOR

K factor LSW is 0x0000

initialize the MPI
MPI init stage
S20

8

LD
K0

LD
MPI offset addr
V1400

BIN

OUTX
MPI ch1 K LSW
V3040

INC
MPI offset addr
V1400

K factor MSW is 0x0001

initialize the MPI
MPI init stage
S20

9

LD
K1

LD
MPI offset addr
V1400

BIN

OUTX
MPI ch1 K LSW
V3040

INC
MPI offset addr
V1400

MSB = # digits to right of decimal point in K factor
LSB = # digits to right of decimal point in volume of flow
set to 0x0400

initialize the MPI
MPI init stage
S20

10

LD
K400

LD
MPI offset addr
V1400

BIN

OUTX
MPI ch1 K LSW
V3040

INC
MPI offset addr
V1400

MSB = # digits to right of decimal point in flow rate
LSB = flow rate units code, 01 = units/second
set to 0x0401

11 initialize the MPI
MPI init stage
S20

LD K401
LD MPI offset addr V1400
BIN
OUTX MPI ch1 K LSW V3040
INC MPI offset addr V1400

12 NEXT

13 NOP

read the flow rate data for all channels

14 initialize the MPI
MPI init stage
S20

LD Kff00
OUT Read Data (bit mapped) MPI read data V3005

reset the flow rate data for all channels
do not bother to reset the total pulse count for each channel

15 initialize the MPI
MPI init stage
S20

LD Kff00
OUT Reset Data (bit mapped) MPI reset data V3006

read the MPI mode word

16 initialize the MPI
MPI init stage
S20

LD MPI Mode Word (bit mapped) MPI mode word V3007
OUT VC1700

set the bit to tell the MPI to read the new configuration

17 initialize the MPI
MPI init stage
S20 — C1700 SET

define flow sample rate in seconds

18 initialize the MPI
MPI init stage
S20 — C1701 RST

enable flow rate calculation

19 initialize the MPI
MPI init stage
S20 — C1702 SET

reset the bit that tells the MPI to write its clock to the PLC data area

20 initialize the MPI
MPI init stage
S20 — C1711 RST

reset the MPI fast update bit

21 initialize the MPI
MPI init stage
S20 — C1710 RST

set the SET MPI clock from PLC data bit

22 initialize the MPI
MPI init stage
S20 — C1717 SET

reload the MPI status word

23 initialize the MPI
MPI init stage
S20 — LD VC1700 / OUT MPI Mode Word (bit mapped) MPI mode word V3007

24 initialize the MPI
MPI init stage
S20 — set MPI clock S22 JMP

SG
MPI update stage
S21

reset the MPI reset data bit

26 MPI update stage S21 → LD K0 / OUT Reset Data (bit mapped) MPI reset data V3006

read the MPI status word

27 MPI update stage S21 → LD MPI Mode Word (bit mapped) MPI mode word V3007 / OUT VC1700

reset the bit that sets the MPI RTC

28 MPI update stage S21 → C1717 RST

enable flow rate calculation and read the MPI RTC (clock)

29 MPI update stage S21 → C1702 SET / C1711 SET

if there is fresh data, reset the fresh data bit

30 C1704 → C1704 RST

reload the MPI status word

31 MPI update stage S21 → LD VC1700 / OUT MPI Mode Word (bit mapped) MPI mode word V3007

SG set MPI clock S22

prepare to set the MPI clock chip: year YY

33 set MPI clock S22 → LD V7774 → OUT YY MPI year V3033

prepare to set the MPI clock chip: Month and Date MMDD

34 set MPI clock S22 → LD V7773 → SHFL K8 → ADD V7772 → OUT MMDD MPI MonthDate V3034

prepare to set the MPI clock chip: hour and minute hhmm

35 set MPI clock S22 → LD V7770 → SHFL K8 → ADD V7767 → OUT hhmm MPI HrMin V3031

prepare to set the MPI clock chip: second.milliseconds ss.mm

36 set MPI clock S22 → LD V7766 → SHFL K8 → ADD V7747 → OUT ss.nn MPI seconds V3030

prepare to set the MPI clock chip: day of the week

37 set MPI clock S22 — LD V7771 — OUT 01-07 MPI dayOfWeek V3032

38 set MPI clock S22 — LD K8000 — OUT MPI Mode Word (bit mapped) MPI mode word V3007

39 set MPI clock S22 — JMP MPI update stage S21

40 — END

41 — NOP